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ABSTRACT

A study of beginning college Spanish students' time-on-task in the foreign language classroom is reported. First, appropriate student on-task behaviors were determined, and teacher behaviors influencing or associated with student on-task behavior were defined. An observational instrument for recording and correlating student and teacher behaviors was then designed and tested with 11 beginning Spanish classes to minimize error in high-inference decisions. Inter-observer agreement of over 85% was found with the instrument being developed. The instrument was then used in the central study of five intensive Spanish students with no previous second language experience and average language aptitude. Each student was observed for four class periods during the five weeks, with observations coded every fifteen seconds and verification by audiotape recording. It was found that all subjects spent most of their instructional time on task, despite varying performance. Grammar and speaking activities were the most common recorded. Sensing (primarily listening) was the most common teacher behavior. Proportions of student behavior spent on each type of task, and associated teacher behaviors, are tabulated. The student showing the least time-on-task was the student who performed best on the final examination, possibly needing less time to master content. Further research is recommended on types of tasks and conditions of performance. (MSE)

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TIME-ON-TASK IN BEGINNING STUDENTS OF SPANISH AT THE UNIVERSITY LEVEL: A CASE STUDY

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TIME-ON-TASK IN BEGINNING STUDENTS OF SPANISH AT THE UNIVERSITY LEVEL: A CASE STUDY

Donna Reseigh Long

SECOND LANGUAGE EDUCATORS SHOULD BECOME MORE AWARE THAN THEY are at present of the quality of time devoted to specific tasks in the classroom. In order to understand better the role of time in learning, it is necessary to study the processes that fill that time. All activities taking place in the instructional setting affect each other in a complex manner. The present study investigated utilization of instructional time by the instructor and students in a second language classroom.

Theoretical bases for the study come from Carroll's model of school learning and Bloom's subsequent theory of school learning.[1] Bloom and Carroll both key their research to time, since all learning requires time, and they have thus shifted the primary focus of instructional research from teacher behavior to the consideration of student variables. Specifically, time-on-task--the amount of time in which a student is engaged in manipulating classroom materials and realia, reading, interacting with others, or in some way processing information about the learning task--seems to be

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particularly relevant to student achievement in such basic skills as native language reading and mathematics.[2] Bloom found consistent, positive correlations between time-on-task and achievement.[3]

One of the most important influences on student time-on-task is the behavior of the teacher in the classroom. Recent studies of teacher behavior have been focused on students' classroom activity, thereby enabling researchers to study the teaching and learning processes simultaneously.[4] Given that learning a second language takes time, that achievement is partially a function of time spent engaged in learning activities, and that one of the primary functions of teaching is maintaining student task engagement, there is a need to investigate the role of time in the second language learning/teaching process.

TIME-ON-TASK: RESEARCH

In the instructional process, what is actually learned depends primarily on the active participation of the learner. Those actions by which students engage in learning tasks have been termed mathemagenic behaviors and include such constructs as learning strategies, attention, set, cognition, etc.[5] It also seems applicable to what the present study calls on-task behaviors--those used as indicators of time-on-task.

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Student engagement in learning activities has long been thought to be a predictor of student achievement.[6] Contemporary educational research has included the theme of time-on-task under various labels--e.g., engaged time, academic learning time, and student attention. The major studies have been confined, however, to instruction in such basic skills as reading and mathematics at the elementary school level. But second language learning also seems to fit into the category of learning of basic skills or "didactics"--learning that takes place in a linear, logical, sequential, explicit manner.[7]

Results of major studies relevant to student time-on-task reveal correlations of +.40 to +.60 between student time spent on academic tasks and measures of achievement.[8] The use of alternative measures of time and achievement in observational research, however, has yielded different and sometimes conflicting estimates for the effect of time-on-task. Greatest effects have been found when achievement measures reflect actual instructional activities and when time measures capture students' rate of engagement in instructional activities.[9]

CLASSROOM MANAGEMENT: RESEARCH

Maintaining students' task engagement has been identified as the critical teaching task. Since learning

results from student behaviors, teacher performance acts as a mediating influence on student behaviors that bring about learning.[10] Effective classroom management is described as consisting of "teacher behaviors that produce high levels of student involvement, minimal amounts of student behaviors that interfere with the teacher's or other students' work and efficient use of instructional time."[11]

Classroom management researchers have identified several teacher variables that predict student task engagement and freedom from off-task behaviors. Generally speaking, successful teachers are strong leaders who occupy the center of attention in the classroom. They direct instructional activities without giving students choices, and approach the subject matter in a clear, businesslike way. In addition, they communicate expectations from the beginning and monitor students closely. Finally, teacher enthusiasm clearly influences students by increasing their attentiveness to instruction.[12]

PURPOSE OF THE STUDY

The primary purpose of the study, determining how available instructional time was utilized by teacher and students in a second language classroom, was divided into six sub-problems: (1) to develop a description of student on-task behaviors; (2) to describe teacher behaviors that influence

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or are associated with student on-task behaviors; (3) to develop an observational instrument for recording student time-on-task and associated teacher behaviors; (4) to determine the proportions of available instructional time allocated for listening, speaking, reading, writing, grammar, culture, vocabulary, and other instructional activities; [13] (5) to determine the proportions of student time-on-task to allocated time for listening, speaking, reading, writing, grammar, culture, vocabulary, and other instructional activities; and (6) to determine the proportions of available instructional time that are substantive, managerial, appraisal, or instructionally nonfunctional in nature.[14]

PRELIMINARY INVESTIGATIONS

Before the main body of research was begun, three sub-problems were investigated and resolved: (1) a description of student on-task behaviors was developed; (2) teacher behaviors that influence or are associated with student on-task behaviors were defined; (3) an observational instrument for recording student time-on-task and associated teacher behaviors was designed. Time-on-task observations require high-inference decisions. In numerous situations, it is difficult to determine whether a student is paying attention to instruction or not. A student may appear to be attentive when, in reality, her or his mind may not be on the

lesson at all. In such a case, the observer can only read the overt signs of attention and code the student as being on task. In order to deal with the problem of making such high-inference decisions, the investigator made a preliminary study of eleven beginning Spanish classes.[15] Students' behaviors were observed to determine whether or not they were attending to instructional activities. When judged to be on task, the type of behavior exhibited by the student was noted. A glossary of those behaviors became the operational definitions for on-task behavior used in the study. A comprehensive, though not all-inclusive, list of on-task behaviors for second language learning activities includes the following (when cued by the teacher or at an appropriate time during instruction): repeating chorally or individually; answering questions; giving alternative answers; speaking in the target language; watching while the teacher models pronunciation or grammar structures; using headphones correctly; looking at another student who is reciting; watching the teacher correct other students; looking at the chalkboard or an overhead transparency; using a pencil to follow lines in a reading text; taking notes; copying model sentences in the target language; laughing at a related joke; asking for clarification; using "thinking postures," such as a hand on the forehead or an intense facial expression; confirming an answer with another student or the teacher;

anticipating the answer to a question by moving the lips, raising the hand, etc.; looking at visuals or realia; using a dictionary or the glossary of the textbook; underlining key sections of the text or class notes; taking out classroom supplies; citing a grammar rule or otherwise substantiating a comment; making educated guesses that indicate testing of hypotheses about the target language.

Following the same procedures, the investigator noted the type of teacher behavior that was associated with, or that seemed to influence, the subject's on-task behavior. Those behaviors include, but are not limited to, the following: choosing reciters randomly; requiring students to show work; circulating about the room to check students' work; using visuals and realia; telling jokes related to the subject matter; giving directions clearly; giving choices of answers; using gestures; calling on reciters after asking questions; drawing illustrations on the chalkboard for clarification; using different colors of chalk to emphasize important structures on the chalkboard; providing examples and models; structuring learning activities hierarchically and sequentially; having students provide information to be organized by the teacher; pointing at students; walking up to students' seats; pointing out differences and similarities between structures; asking for alternative answers; giving

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"spot" lessons when necessary (review grammar structure, culture, etc.); telling relevant anecdotes.

Although deciding whether or not students are on task requires an observer to make judgments that may appear to be subjective in nature, the preliminary groundwork of compiling a glossary of on-task behaviors helped to allay the problem somewhat in the present study. In addition, two periods of participant observation, one during the pilot study and another during the principal study, helped the investigator make comparisons between operational definitions and behaviors specific to subjects in the study.

After the glossaries of student on-task behaviors and associated teacher behaviors were developed, the investigator designed an observational instrument that accommodated the variables of interest: subjects' attention or inattention to learning tasks; associated instructor behaviors; and type and duration of instructional activities. Figure 1 shows a sample observational instrument.

Insert Figure 1 about here.

Column 1 lists the 15-second intervals during the observation. Column 2 notes the type of instructional activity in progress, using the following codes:
L (listening); S (speaking); R (reading); W (writing);

G (grammar); C (culture); V (vocabulary); E (substantive, if not one of the categories above); M (managerial); and N (instructionally nonfunctional). Columns 3, 4, and 5 are used to note the subject's behavior--on-task, off-task, or unclassified (could not be determined or no opportunity existed for engaging in the instructional activity). Column 6 recorded the instructor's behavior associated with the subject's on-task behavior via the Observational System for Instructional Analysis Codes.[16] Column 7 contains space for additional observer notes. Figure 2 lists the OSIA codes.

Insert Figure 2 about here.

The final step of the preliminary investigations was to establish reliability of judgments made by the investigator while coding behaviors in the instructional setting. The criterion of 85 percent was set as the minimum acceptable measure of inter-observer reliability for the study.[17] In a series of observations, the investigator and a co-observer obtained mean inter-observer agreement measures of 100 percent for classroom activities, 93.8 percent for task attention, and 88.1 percent for teacher behaviors. The co-observation procedures offered sufficient evidence that the operational definitions of student on-task behaviors and associated teacher behaviors were reliable and generalizable.

POPULATION AND SAMPLE

The investigation was carried out in a beginning Spanish class for non-native speakers at New Mexico State University during the 1982 Summer Session. The six-week intensive course of instruction consisted of five 110-minute classes and three 30-minute laboratory sessions each week.

In order to compensate for possible effects of transfer, only students with no previous second language experience were considered for selection as subjects.[18] Based on amount of time available for observations and time needed to make an optimal number of observations per subject, the decision was made to include five subjects in the study.[19] Because all five subjects were enrolled in the same section, contextual conditions--instructor, teaching strategies and techniques, classroom activities, instructional materials, and time allocated for instructional activities--were held constant.

The five subjects were selected carefully. Ten students having no previous second language experience were identified on the basis of information gathered from classroom registration surveys. Demographic information (name, college, rank, major), previous second language study, travel abroad and other related language experience, and reasons for taking the course, were items included in the survey. In addition, the Modern Language Aptitude Test Short Form was used as a pretest for screening subjects.[20] The Modern

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Language Aptitude Test was chosen as a means of selecting subjects with "average" language-learning aptitude. Research suggests that learners, even under ideal learning conditions, require differing amounts of time to learn a given task to criterion.[21] Since aptitude, according to Carroll's definition, is inextricably involved with time needed to learn a given task, and may also be reflective of a learner's time-on-task, the decision was made to include in the study only subjects who scored neither very high nor very low on the Modern Language Aptitude Test. From the group of ten students identified previously as having no prior second language experience, five students whose scores were between one standard deviation below and above the mean were selected as subjects for the study. By using these selection procedures, aptitude, also, was held approximately equal for all subjects. To avoid affecting their classroom behavior, students were not informed of their selection as subjects.

PROCEDURES

In yet a further attempt to deal with the problem of high-inference decision-making, the investigator became a participant observer in the class during the first week of the session.[22] Since time-on-task is a construct that may be both overt and covert in nature, participant observation was seen as a vehicle for aiding the investigator in making

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accurate judgments about subjects' on-task and off-task behaviors. Through participant observation, the investigator could reach a better understanding of the milieu in which the subjects and the instructor were functioning and could thus make more valid interpretations of events in the instructional setting. In addition, students became accustomed to the investigator's note-taking and coding activities. As a result, after a few days little notice was taken of the coding procedures, and the investigator's presence did not appear to affect the behavior of the instructor, subjects, or other students. During the participant observation period, qualitative data regarding the instructional setting and participants were recorded in daily field notes. Informal discussions with the instructor, subjects, and other students helped in determining how subjects' behaviors reflected their attention or inattention to learning tasks.

In the remaining five weeks of the study, four observations were made of each subject. Only one subject was observed per class period. Subjects' behaviors were coded at 15-second intervals.[23] Observations were done live by the investigator, but audio tapes were recorded as a means of verifying hand-recorded data. The order of observation of subjects was dictated to some degree by daily attendance.

However, individual subjects were observed once a week, on a different day each time.

Because not all time-on-task takes place in the classroom, students kept a daily log of study time spent outside of class--laboratory sessions, individual study, tutoring sessions, listening to Spanish radio and television broadcasts, etc. Although those estimates were not verifiable, they may have mediated the effects of classroom time-on-task on achievement.

RESULTS

All subjects in the study spent most of the allocated instructional time on task. Three subjects, in fact, were coded as being on task at all intervals during their four observations. Table 1 presents proportions of 15-second intervals of on-task, off-task, and unclassified behaviors to total allocated instructional time for each subject.

Insert Table 1 about here.

Most of the instructional activities used in the course came from the text, Puntos de partida: An Invitation to Spanish.[24] Ten chapters from the text were completed during the six-week period. Large-group, instructor-directed activities were the principal mode of instruction. All

second language skills were not practiced during each class. The writing skill, for example, was never treated in class, although examinations were written. Grammar activities occupied more time during the latter stages of the course, while listening activities became less frequent. Other types of instructional activities remained relatively constant throughout the course. Number of activities per class session ranged from three (on an examination day) to 31. The mean was 23.3 activities per class. Mean allocated instructional time was 90.7 minutes per observation; therefore, average duration of each activity was approximately 3.9 minutes.

Table 2 presents proportions of 15-second intervals of subjects' on-task, off-task, and unclassified behavior with respect to the various categories of instructional activities. Grammar activities represented approximately half the total number of 15-second intervals. Speaking activities comprised the next largest number of intervals. Other substantive activities (mainly review) was the third largest category. Reading and vocabulary activities were similar in number, while listening, culture, and managerial activities were minimal. No writing or instructionally nonfunctional activities were observed. We see in Table 2 that .99 of allocated time for instructional activities was spent on task by the subjects. Approximately .09 of

allocated time was unclassified, while off-task behaviors were so few in number that their proportion to allocated instructional time was .00.

Insert Table 2 about here

The instructor utilized most of the behaviors represented by the categories of the Observational System for Instructional Analysis. Observed instructor behaviors associated with subjects' on-task, off-task, and unclassified behaviors are presented in Table 3. Sensing (primarily listening) was the most frequent instructor behavior. Initiating (similar to lecturing) and soliciting behaviors were approximately equal in number, followed closely by responding. Acknowledging was the most frequent appraisal behavior. Personal positive and personal negative judgments were never used. Although positive and negative judgments were infrequent, the investigator believes that the instructor's acknowledgments were interpreted by students as judgments of correctness, thus minimizing the need for outright positive judgments. Managerial activities consisted mainly of initiating behaviors and were generally associated with giving instructions for classroom activities and making homework assignments. In Table 3, we find that substantive instructor behaviors constituted .77 of total allocated time

for instructional activities. Appraisal behaviors represented .17 of allocated time, and managerial behaviors .05. No intervals of instructionally nonfunctional behaviors were observed. It is interesting to note that the substantive behaviors sensing, initiating, responding, and soliciting are similarly proportional. Thus, the instructor was able to utilize several effective means of keeping students on task. Also, the proportion of soliciting behaviors (.18) was balanced by a similar proportion of appraisal behaviors (.17). The low proportion of managerial behaviors (.05) to total allocated instructional time and the directive teaching style represented by the category managerial initiating (.04) may be indicative of students' understanding of the need for quick pacing and timing in the intensive course, as well as their understanding of the cooperating instructors' expectations from the outset of the course.

Insert Table 3 about here

In Table 4, we find the estimated number of hours spent on task outside of class for each subject. No estimates are given for Deborah, who dropped the course before the final week of the session. Table 4 also presents subjects' composite scores on the final examination and their final

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grades. The final examination was not comprehensive and reflected content from the last two weeks of the course. During that period, the instructional activities, ranked in order of emphasis, were grammar, speaking, reading, other substantive activities, vocabulary, culture, and listening. The final examination, however, tested only knowledge of grammar. Speaking skills were never tested formally, and listening and reading comprehension were tested only on the first two examinations. Five examinations were given in all. The final examination, then, reflects achievement in a single area.

Insert Table 4 about here

Of the three subjects observed to be on task at all intervals, Deborah dropped the course, Rob failed it, and Steve received the highest score on the final examination and in the course. Steve also had the lowest estimate of out-of-class time-on-task, indicating, perhaps, that he required less time to master the content than did the other subjects. High rates of time on task were found for all subjects, apparently the result of large-group instructor centered activities. This finding is not inconsistent with results of other investigations. Although Rob was the only student to receive a failing grade in the course, his Modern

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Language Aptitude Test Score (40) and study log estimate (80.1 hours) were nearly identical with those of another student who received a final grade of B-. Both students had perfect attendance and were very attentive to the instructional activities. This finding suggests that time-on-task produces a "ceiling effect" on amount of exposure to instruction. The observed differences in achievement, therefore, must be attributable to other factors. Carroll's Model suggests that ability to understand instruction (a combination of general intelligence and verbal ability) and quality of instruction (teacher performance and characteristics of materials) might account for such differences when aptitude and time variables are relatively equivalent for subjects.

The intensive nature of the course appears to have limited variety and extent of instructional activities and character of instructor behaviors and may have helped to reduce occurrence of instructionally nonfunctional activities as well. A non-intensive setting might produce quite different data--including more student time-off-task. Although quality of input was held constant, it may not have been appropriate for all subjects. Individual needs and learning styles may result in a need for increased time in learning a given task. Students' ability to understand instruction determines how detrimental insufficient

time-on-task is to achievement. Other factors such as motivation, intensity of subjects' attention to learning tasks, and difficulty of the learning tasks themselves were not assessed and may have contributed to the observed differences in achievement. Since the data here are purely descriptive, however, such speculations cannot be supported without further investigation.

SUMMARY AND CONCLUSIONS

Results indicate high amounts of time-on-task for all subjects while achievement varied considerably. Since no evidence of low rates of time-on-task was observed, it is impossible to speculate here on its importance as a variable influencing student achievement.

The questions of time on what task and under what conditions should shape the direction of future research in second language time-on-task. Quality of time-on-task must be investigated both from the standpoint of the teacher and of the learner. Research might be implemented through use of learning-style inventories and analyses of teaching styles, classroom activities, and instructional materials. Discrepancies among the factors should be examined for effects on student task engagement and achievement. By using such procedures, additional factors such as motivation, intensity of attention, quality of instruction, and time

needed to learn could be studied to determine their effects on student time-on-task.

The questions of eliciting and validating estimates of time-on-task spent both in and outside the classroom also merit further attention. Interview techniques in which students reflect on how they processed learning tasks would be especially erlightening. Reflections could be stimulated through replay of video or audio tapes of class sessions. Similar procedures could be used in determining intensity of students' attention to learning tasks.

Researchers should explore the use of multiple simultaneous procedures for collecting and analyzing data in second language time-on-task studies: videotaping, live coding of behaviors, audio taping, coding by several observers from an observation room, and use of microcomputers and other technological advances are all promising means of facilitating such studies.

In order to describe the concept of time-on-task in second language research more meaningfully, nature and difficulty of learning tasks must be assessed by means of task analysis procedures. Exemplary teachers could then attempt to maximize quality of time-on-task by manipulating type and difficulty of learning tasks, mode of presentation, and types of materials. Finally, studies in which

time-on-task is correlated with student achievement must be conducted in order to determine its effects.

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NOTES

[1] John B. Carroll, "A Model of School Learning," Teachers College Record, 64 (1963), pp. 723-33; Benjamin S. Bloom, Human Characteristics and School Learning (New York: McGraw-Hill, 1976).

[2] See Charles W. Fisher, Richard Marliave and Nikola N. Filby, "Improving Teaching by Increasing 'Academic Learning Time'," Educational Leadership, 37 (1979), pp. 52-54; Jane A. Stallings and David H. Kaskowitz, Follow Through Classroom Evaluation 1972-1973. SRI Project URU 7370 (Menlo Park, CA: Stanford Research Institute, 1974) [EDRS: ED 104 970].

[3] Bloom (note 1 above).

[4] See Donald M. Medley and Patricia R. Crook, "Research in Teacher Competency and Teaching Tasks," Theory into Practice, 19 (1980), pp. 294-301; David C. Berliner, "Using Research on Teaching for the Improvement of Classroom Practice," Theory into Practice 19 (1980), pp. 302-08; N. L. Gage, The Scientific Basis of the Art of Teaching (New York: Teachers College Press, 1978); Lyn Corno, "Classroom Instruction and the Matter of Time," Classroom Management, ed. Daniel L. Duke (Chicago: Univ. of Chicago Press, 1979), II, pp. 245-80.

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[5] Ernst Z. Rothkopf, "The Concept of Mathemagenic Activities," Review of Educational Research, 40 (1970), pp. 325-33; David P. Ausubel, Joseph D. Novak and Helen Hanesian, Educational Psychology: A Cognitive View (New York: Holt, Rinehart, 1978).

[6] See Herman H. Horne, The Psychological Principles of Education (New York: Macmillan, 1906); Boyd H. Bode, Fundamentals of Education (New York: Macmillan, 1922).

[7] Barak Rosenshine and David C. Berliner, "Academic Engaged Time," British Journal of Teacher Education, 4 (1978), pp. 4-5; Kenneth Chastain, Developing Second Language Skills: Theory to Practice, 2nd ed. (Chicago: Rand McNally, 1976), p. 278.

[8] See Lorin W. Anderson, "Time and School Learning," Diss., Univ. of Chicago, 1973; Durmus A. Ozcelik, "Student Involvement in the Learning Process," Diss., Univ. of Chicago, 1974; Charles W. Fisher, et al., Teaching Behaviors, Academic Learning Time and Student Achievement: Final Report of Phase III-B, Beginning Teacher Evaluation Study (Sacramento, CA: Commission for Teacher Preparation and Licensing, 1978) [EDRS: ED 183 525]; Stallings and Kaskowitz (Note 2 above); Thomas L. Good and Terrill M. Beckerman, "Time-on-Task: A Naturalistic Study in Sixth-Grade Classrooms," Elementary School Journal 78 (1978), pp.

192-201; Sigfrid D. Soli and Vernon T. Devine, "Behavioral Correlates of Achievement: A Look at High and Low Achievers," Journal of Educational Psychology, 68 (1976), pp. 335-41.

[9] See Nancy Karweit and Robert E. Slavin, Time-on-Task: Issues of Timing, Sampling, and Definition, (Baltimore: Johns Hopkins Univ., 1980) [EDRS: ED 198 173].

[10] Medley and Crook (Note 4 above).

[11] Edmund T. Emmer and Carolyn M. Evertson, "Synthesis of Research on Classroom Management," Educational Leadership, 38 (1981), p. 342.

[12] See Jacob S. Kounin, Discipline and Group Management in Classrooms (New York: Holt, Rinehart, 1970); R. S. Soar, Follow Through Classroom Process Measurement and Pupil Growth, 1970-1971: Final Report (Gainesville, FL: College of Education, Univ. of Florida, 1973); Stallings and Kaskowitz (Note 2 above); D. Solomon and A. J. Kendall, Individual Characteristics and Children's Performance in Varied Educational Settings (Chicago: Spencer Foundation, 1976); Marshall Arlin, "Teacher Transitions can Disrupt Time Flow in Classrooms," American Educational Research Journal, 16 (1979), pp. 42-56; Rosenshine and Berliner (Note 7 above); William Gephart, Deborah B. Strother and Willard R. Duckett, "Teacher Enthusiasm: A Factor in Stimulating Student Learning," Practical Applications of Research, 3 (1981), pp.

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2-3; Anne G. Nerenz and Constance K. Knop, "A Time-Based Approach to the Study of Teacher Effectiveness," Modern Language Journal, 66 (1982), pp. 243-54.

[13] The following operational definitions were used for instructional activities: listening--discrimination, comprehension, and dictation tasks; speaking--pronunciation, guided and free conversation, and related target language oral skill tasks; reading--comprehension tasks and reading aloud; writing--composition and copying tasks; grammar--tasks involving acquisition and drilling of target language structures; culture--activities leading to understanding the daily life of target population members, history, politics, economy, social structures, arts, and beliefs; vocabulary--tasks involving acquisition and drilling of target language vocabulary.

[14] Substantive functions are those associated with achieving subject-matter outcomes. Managerial functions are behaviors associated with creating appropriate learning conditions. Appraisal behaviors judge or acknowledge a person, a behavior, or a product of a person's behavior. Instructionally nonfunctional behaviors interfere with learning conditions or outcomes and/or serve no apparent substantive, managerial, or appraisal function. See Concepts and Categories for the Study of Instruction: The

Observational System for Instructional Analysis, ed. John B. Hough, (Columbus, OH: Ohio State Univ., 1980).

[15] The investigations were carried out during the 1981 Autumn Quarter at the Ohio State University. All sections in the preliminary study were taught by experienced instructors.

[16] See Hough (Note 14 above).

[17] A review of the time-on-task literature revealed measures of inter-observer reliability ranging from 85 percent to 92 percent.

[18] As Frederick and Walberg suggest, when material is familiar, time may appear weak and insignificant as a predictor of achievement. See Wayne C. Frederick and H. J. Walberg, "Learning as a Function of Time," Journal of Educational Research, 73 (1980), pp. 183-94.

[19] Reducing number of subjects and days of observation in time-on-task studies may adversely affect reliability. See Nancy Karweit and Robert E. Slavin, "Measurement and Modeling Choices in Studies of Time and Learning," American Educational Research Journal, 18 (1981), pp. 157-71.

[20] John B. Carroll and Stanley M. Sapon, Modern Language Aptitude Test (New York: Psychological Corp., 1959).

[21] See Karweit and Slavin (Note 20 above); Soli and Devine (Note 5 above).

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[22] See Stephen Wilson, "The Use of Ethnographic Techniques in Educational Research," Review of Educational Research, 47 (1977), pp. 245-65.

[23] A five-second interval is generally used with the Observational System for Instructional Analysis. However, in a study of teaching effectiveness among graduate teaching assistants of French, Jarvis found that very little information was lost by using a 15-second interval as opposed to a five- or ten-second interval in collecting data by means of an observational system. See Gilbert A. Jarvis, "A Behavioral Observation System for Classroom Foreign Language Skill Acquisition Activities," Modern Language Journal, 52 (1968), pp. 335-41.

[24] Knorre, Marty, et al., Puntos de partida: An Invitation to Spanish (New York: Random House, 1981).

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FIGURE 1

Observational Instrument

1 Interval	2 Activity	3 On-task	4 Off-task	5 Unclassified	6 Instructor	7 Notes
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
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15						
16						
17						
18						
19						
20						

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FIGURE 2

Observational System for Instructional Analysis Codes

Function	Category	Code
Substantive	Thinking	1
	Sensing	2
	Manipulating Artifacts	3
	Initiating	4
	Responding	5
	Soliciting Clarification	6
	Soliciting	7
Managerial	Thinking	01
	Sensing	02
	Manipulating Artifacts	03
	Initiating	04
	Responding	05
	Soliciting Clarification	06
	Soliciting	07
Appraisal	Judging Correctness	8
	Personal Positive Judgment	9
	Acknowledging --	10
	Judging Incorrectness	11
	Personal Negative Judgment	12
	Instructionally Nonfunctional	13

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TABLE 1

Proportions of 15-second Intervals of On-task, Off-task, and Unclassified Subject Behavior to Total Allocated Instructional Time

Subject	On-Task	Off-Task	Unclassified
Cynthia	.94	.02	.04
Betsy	.99	.01	.00
Steve	1.00	.00	.00
Deborah	1.00	.00	.00
Rob	1.00	.00	.00

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TABLE 2

Proportions of 15-second Intervals of On-task, Off-task, and Unclassified Subject Behavior to Total Allocated Time by Activity

Activity	On-Task	Off-Task	Unclassified	Totals
Listening	.04	.00	.00	.04
Speaking	.19	.00	.00	.19
Reading	.08	.00	.00	.08
Writing	.00	.00	.00	.00
Grammar	.46	.00	.01	.47
Culture	.02	.00	.00	.02
Vocabulary	.06	.00	.00	.06
Other[a]	.11	.00	.00	.11
Managerial	.03	.00	.00	.03
Nonfunctional	.00	.00	.00	.00
Totals	.99	.00	.01	1.00

[a]Substantive activities not falling into other categories

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TABLE 3

Proportions of 15-Second Intervals of On-Task, Off-Task, and Unclassified Subject Behavior to Total Allocated Time by Instructor Behavior

Instructor Behavior	On-task	Off-task	Unclassified	Totals
Substantive	.77	.00	.00	.77
Thinking	.00	.00	.00	.00
Sensing	.22	.00	.00	.22
Manipulating artifacts	.00	.00	.00	.00
Initiating	.19	.00	.00	.19
Responding	.15	.00	.00	.15
Soliciting clarification	.03	.00	.00	.03
Soliciting	.18	.00	.00	.18
Appraisal	.17	.00	.00	.17
Judging correctness	.03	.00	.00	.03
Personal positive judgment	.00	.00	.00	.00
Acknowledging	.11	.00	.00	.11
Judging incorrectness	.03	.00	.00	.03
Personal negative judgment	.00	.00	.00	.00

(continued)

Table 3 (continued)

Instructor Behavior	On-task	Off-task	Unclassified	Totals
Instructionally nonfunctional	.00	.00	.00	.00
Managerial	.05	.00	.00	.05
Thinking	.00	.00	.00	.00
Sensing	.00	.00	.00	.00
Manipulating Artifacts	.00	.00	.00	.00
Initiating	.04	.00	.00	.04
Responding	.00	.00	.00	.00
Soliciting clarification	.00	.00	.00	.00
Soliciting	.01	.00	.00	.01
Totals	.98	.01	.01	1.00

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TABLE 4

DAILY STUDY LOG ESTIMATES, FINAL EXAMINATION SCORES, AND FINAL GRADES BY SUBJECT

Subject	Daily Study Log Estimate	Final Examination	Final Grade
Cynthia	72 hrs	58	C-
Betsy	112 hrs	60	C
Steve	65.5 hrs	68	B
Deborah	N/A	N/A	N/A
Rob	80.1 hrs	10	F

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